

## ***Nancy Grumet Prouty***

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### **EDUCATION:**

2004 Ph.D.     Stanford University, Stanford, CA  
                 Oceanography; Geological and Environmental Sciences Department  
1997 M.Sc.     University of New Hampshire, Durham, NH  
                 Climate Change Research Center; Earth Sciences Department  
1993 B.Sc.     Whitman College, Walla Walla, WA  
                 Geology Department

### **RELEVANT PROFESSIONAL EXPERIENCE:**

Oct. 2009-present     **Research Scientist**, United States Geological Survey, Santa Cruz, CA.  
                 Design and implement field experiments on geochemical impacts of  
                 groundwater and land-based pollution on coral reefs. Lead co-PI on deep sea  
                 coral paleo-ecology multi-agency project.

2007-2009             **Mendenhall Postdoctoral Research Fellow**, United States Geological  
                 Survey, Santa Cruz, CA. Developed and managed 2-year Federal scientific  
                 research program to investigate the link between sedimentation and coral reef  
                 ecosystem health. Collaborated with investigators at multiple Federal agencies  
                 and academic institutions.

2004-2007             **Cooperative Institute for Climate and Ocean Research Postdoctoral  
                 Scholar**, Woods Hole Oceanographic Institution, Woods Hole, MA. Initiated  
                 and implemented multidisciplinary initiative on new tools to assess coral  
                 response to environmental stressors.

Summer 2004             **University Instructor**, University of California, Berkeley, CA. Developed  
                 innovative student centered curriculum for an 8-week intensive summer  
                 course on oceanography. Targeted curriculum to enhance student participation  
                 and communication.

2000-2004             **Graduate Research Environmental Fellow**, Department of Energy (DOE),  
                 Stanford University. Collaborated with scientists from universities and  
                 national laboratories in support of the Department's global change research  
                 agenda and activities. Lead member of international coral reef project in  
                 Kenya and Sumatra.

### **PEER-REVIEWED JOURNAL PUBLICATIONS:**

**Prouty<sup>1</sup>, N.G.**, Roark, E.B., Buster, N.A., and Ross, S.W. Growth-rate and Age Distribution of  
Deep-Sea Black Corals in the Gulf of Mexico (2011) Mar. Ecol. Prog. Ser. 423:101-115.

**Prouty, N.G.**, Field, M.E., Stock, J.D., Jupiter, S.D., and McCulloch, M.T., (2010) Coral Ba/Ca  
records of sediment input to the fringing reef of the south shore of Moloka'i, Hawai'i, over the last  
several decades. *Marine Pollution Bulletin* doi:10.1016/j.marpolbul.2010.05.024

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<sup>1</sup> Associated Press release 3/31/2010 "USGS finds 2,000-year-old coral near BP Gulf well"

- Prouty, N.G.**, Field, M.E., Jupiter, S.D., and McCullom, M.T. (2009) Coral Proxy Record for Decadal Scale Reduction in Base flow from Moloka'i, Hawai'i. *Geochemistry, Geophysics, and Geosystems*, 10(12) Q12018, doi:10.1029/2009GC002714, 2009
- Carilli, J., **Prouty, N.G.**, Hughen, K.A., and Norris, R.D. (2009) Century-scale records of land-based activities recorded in Mesoamerican coral cores. *Mar. Poll. Bull.*, 1835–1842 doi:10.1016/j.marpolbul.2009.07.024
- Prouty, N.G.** Hughen, K., and Carilli, J. (2008) Geochemical signature of land-based activities in Caribbean coral surface samples. *Coral Reefs* doi: 10.1007/s00338-008-0413-4.
- Grumet, N.S.**, Wickett, M.E, Duffy, P.B. Caldeira, K. and Dunbar R.B. (2005). Intrabasin comparison of surface radiocarbon levels in the Indian Ocean between coral records and three-dimension global ocean models. *Global Biogeochem. Cycles*, 19, GB2010, doi:10.1029/2004GB002289.
- Grumet<sup>2</sup>, N.S.**, Abram, N.J., Beck, J.W., Dunbar, R.B., Gagan, M.K., Guilderson, T.P., Hantoro, W.S., and Suwargadi B.W. (2004). Coral radiocarbon records of Indian Ocean water mass mixing and wind-induced upwelling along the coast of Sumatra, Indonesia, *J. Geophys.Res.-Oceans*, 109, C05003.
- Meibom, A., Stage., M.M., Wooden., J.L., Constantz, B.R., Owen, A., Dunbar, R.B., **Grumet, N.S.**, Bacon, C.R., and Chamberlain C.P. (2003). Monthly strontium/calcium oscillations in symbiotic coral aragonite: biological effects limiting the precision of the paleotemperature proxy. *Geophys. Res. Lett.*, 30, 1418-1421.
- Grumet, N.S.**, Guilderson, T.P. and Dunbar, R.B.. (2002) Coral radiocarbon as a tracer for meridional transport in the Indian Ocean. *J. Marine Res.* 60, 725-742.
- Grumet, N.S.**, Guilderson, T.P., and Dunbar, R.B.. (2002) Pre-bomb radiocarbon variability inferred from a Kenyan coral record. *Radiocarbon*, 44-2.
- Grumet, N.S.**, Wake, C.P., Mayewski, P.A., Zielinski, G.A., Koerner, R.M., and Fisher, D.A. (2001) Variability of sea-ice extent in the Baffin Bay over the last millennium. *Climatic Change*, 49, 129-145.
- Grumet, N.S.**, Wake, C.P., Zielinski, G.A., Fisher, D.A., Koerner, R.M., and Jacobs, J.D. (1998) Preservation of glaciochemical time-series in snow and ice from the Penny Ice Cap, Baffin Island. *Geophys. Res. Lett.*, 25, 357-360.

## SELECTED ABSTRACTS

- Prouty, N.G.**, Roark, E.B. and Koenig, A. (2011) Sub-decadal records of surface water properties recorded in deep-sea corals spanning the last millennium from the Gulf of Mexico, European Geophysical Union Meeting, Vienna, Austria (oral)
- Prouty, N.G.**, Roark, E.B., Buster, N., Holmes, C., Koenig, A., and Ross, S.W. (2011) Lophelia II: Growth rate and age distribution of deep-sea black corals in the Gulf of Mexico. BOEMRE Information Transfer Meeting March 2011 (oral)
- Prouty, N.G.**, Roark, E.B., Holmes, C., Buster, N., and Ross, S.W. (2010) Sub-decadal records of surface water properties recorded in deep-sea corals spanning the last millennium from the Gulf of Mexico. U.S.G.S. Climate Change Science Workshop March 2010 (poster)
- Prouty, N.G., Roark, E.B., and Ross, S.W. (2010) Geochemical Evaluation of Annual Growth Rings in Deep-sea Antipatharian Coral. American Geophysical Union Ocean Sciences Meeting March 2010 (poster)

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<sup>2</sup> Included in AGU "Editor's Choice: Biogeosciences" virtual journal for 2004. A selection of new articles that are of the broadest interest to geophysicists, geochemists, and geologists who are incorporating biological processes into their research.

- Prouty, N.G. .**, Roark, E.B., and Ross, S.W. (2009) Geochemical Signal Reproducibility in Sub-samples of Black Corals. American Geophysical Union Meeting December 2009 (poster)
- Prouty, N.G.**, Field, M., Swarzenski, P., and Jupiter, S. (2008) Do the corals off Molokai, Hawaii preserve a long-term groundwater discharge record? American Geophysical Union Meeting December 2008 (poster)
- Prouty, N.G. .**, Huguen, K., and Carrilli, J. (2007) Geochemical signature of land-based Activities in Caribbean coral surface samples, American Geophysical Union Meeting December 2007 (poster)
- Grumet, N.S.**, Wickett, M.E., Duffy, P.B., Caldeira, K., and Dunbar, R.B. (2003). Intrabasin comparison of surface radiocarbon levels in the Indian Ocean between coral records and three-dimension global ocean models. American Geophysical Union Meeting December 2003 (poster)

## **ANALYTICAL EXPERIENCE**

- 5+ years protocol development and analytical experience with solution and laser Finnigan inductively coupled-plasma mass spectrometer (ICP-MS) measuring ultra-trace metals in carbonate and proteinaceous samples; sample preparation in trace metal clean room
- 4+ years analytical experience in stable isotope laboratory maintenance/operational experience with Finnigan MAT 252 Isotope Ratio Mass Spectrometer and Kiel III carbonate device for analyzing oxygen and carbon isotopes
- Analytical experience in basic laboratory geochemical techniques (spectrophotometric methods, coulometry, alkalinity, dissolved oxygen, pCO<sub>2</sub> and DIC measurement)
- 2+ years in graphite preparation laboratory (conversion of coral samples to graphite for AMS measurements)
- 2+ years analytical experience in ion chromatograph laboratory

## **GRANTS AND FELLOWSHIPS AWARDED**

2009-2010	USGS Venture Capital Fund
2007-2009	USGS Mendenhall Research Fellow
2004-2007	WHOI Postdoctoral scholar
2004 -2005	U.C. President's Postdoctoral Fellowship Program Finalist
2002	American Geophysical Union Outstanding Student Poster Award
2001 and 2002	McGee Grant, Stanford University
2000 and 2001	Shell Foundation, Stanford University
1994-1995	University of New Hampshire, Academic Scholarship
1994-1995	Keck Foundation Undergraduate Fellowship

## **PROFESSIONAL ACTIVITIES, SERVICE, and ASSOCIATIONS**

Member of WHOI Post-doctoral Association and WHOI Gender Equity Committee. Participant in N.S.F. sponsored career development workshop at Stanford/Summer 2003. Ad hoc Reviewer for *Marine and Freshwater Research*, *Quaternary Science Review*, *Geochimica et Cosmochimica Acta*, *Eos*, *Paleoceanography*, *Paleobiodiversity and Paleoenvironments*, *Caribbean Journal of Science*, *Coral Reefs*, *Climatic Change*, *Global Planetary Change*, *Internal Coral Reef Symposium Proceedings*, and *Caribbean Journal of Science*. Stanford Graduate Student Academic Council and Graduate Student Mentor Program/Stanford University 2000-01. Biogeochemical Seminar Coordinator/Stanford University 2000-01. Ocean's Seminar Coordinator/Stanford University 2001-02. Member of: American Geophysical Union, American Women in Science, Association for Women Geoscientists, Geological Society of America, International Society for Reef Studies and Sigma Xi.